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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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7590

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EXAMINER

GOINS, DAVETTA WOODS

ART UNIT PAPER NUMBER

2632

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/719,315

Applicant(s)

LU ET AL.

Examiner

Davetta W. Goins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

1. Claim 9 is objected to because of the following informalities: Claim 9 should be numbered as claim 6. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2 and 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Farrow et al. (US Pat. 5,777,893).

In reference to claims 1, 5, 6, Farrow discloses the claimed vehicle detector having circuitry powered by a source of electrical power for sensing changes in an associated inductive loop related to the presence of a vehicle in the vicinity of the loop and for generating a Call signal in response to such changes; the improvement comprising means for automatically performing a loop check for associated inductive loop, which is met by vehicle detector 14 comprising a loop signal source 16 for energizing loop 12, that is installed in the pavement, a controller 18 comprising a microprocessor, a timer 19 and memory arrangement 20. The controller 18 is capable of determining whether a vehicle has been detected by the loop circuit 12, and store the diagnostic data in memory 20 (col. 4, lines 1-63).

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In reference to claim 2, Farrow discloses the claimed means for automatically performing a loop check including a check loop and switch means for selectively coupling the check loop to the vehicle detector, which is met by the controller 18 of detector unit 14 detecting a short circuit error condition in loop 12 and an open circuit error condition in loop 12 for sampling the signal from loop circuit 12, determining whether the vehicle has been detected and storing the diagnostic result in memory 20 (col. 4, lines 51-67).

In reference to claim 4, Farrow discloses the claimed means for automatically performing a loop heck includes means for displaying the result of the loop check, which is met by the alphanumeric display 36 of data reading device 24 (col. 4, lines 40-50).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Farrow et al.

In reference to claim 3, Farrow does not disclose the claimed vehicle detector is a multi-channel detector having circuitry for generating Call signals for each channel; and wherein the means for automatically performing loop check includes means for performing a loop check on each of channel. However, Farrow does disclose a diagnostic system that includes a detector unit 14 and

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diagnostic data stored in memory 20 including data relating to maximum drift of frequency of the drive signal for energizing the loop 12 and data relating to the minimum and maximum changes in inductance of the loop 12 during vehicle detection (col. 64-67; col. 5, lines 1-6).

Since Farrow discloses a detector system that is capable of diagnosing whether the loop 12 is working properly, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a multi-channel detector for generating Call signals for each channel, to ensure that the diagnostic detector is capable of receiving signals from the loop at all times and getting a proper reading to determine a fault.

6. The prior art of record and not relied upon is considered pertinent to the applicant's disclosure as follows. Johnson et al. (US Pat. 4,201,908) and Farrow (US Pat. 5,621,661), which disclose a loop diagnostic systems.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davetta W. Goins whose telephone number is 571-272-2957. The examiner can normally be reached on Mon-Fri with every other Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on 571-272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



D.W.G.

March 17, 2005

Davetta W. Goins  
Primary Examiner  
Art Unit 2632